

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-24 (canceled).

25 (new). An actinic radiation curable composition comprising:

- (A) at least one actinic radiation curable cationically polymerisable compound;
- (B) at least one cationic photoinitiator; and

(C) at least one stabilizer which is a complex of a Lewis acid and a Lewis base, provided that the Lewis acid is not a fluorine-containing boron compound and wherein the stabilizer is present in the actinic radiation curable composition in an amount of between 0.001 weight % to 0.3 weight %.

26 (new). The actinic radiation curable composition of claim 25 wherein the Lewis acid is selected from the group consisting of BX_3 , AlX_3 , FeX_3 , FeX_2 , ZnX_2 , TiX_3 , and TiX_4 wherein each X is independently selected from the group consisting of C_{1-6} alkyl, C_{1-6} alkoxy, hydrogen, chlorine, bromine, iodine and fluorine, and provided that when the Lewis acid is BX_3 , X is not fluorine.

27 (new). The actinic radiation curable composition of claim 26 wherein the Lewis acid is BH_3 or BCl_3 .

28 (new). The actinic radiation curable composition of claim 25 wherein the Lewis base is selected from the group consisting of ammonia, a phosphine, and an amine.

29 (new). The actinic radiation curable composition of claim 25 wherein the Lewis base is selected from the group consisting of ammonia, a phosphine of formula (I)



and an amine of formula (II)



wherein each R_8 is independently selected from the group consisting of hydrogen provided that not more than two R_8 's represent hydrogen, a C_{1-20} alkyl group optionally substituted by one or more phenyl groups and wherein the phenyl groups are optionally substituted by one

or more C₁₋₁₂ alkyl groups or halogens, a phenyl group optionally substituted by one or more C₁₋₁₂ alkyl groups or halogens, a C₅₋₇ cycloalkyl group, and two R₈'s together represent a C₄₋₆ alkylene group wherein one or more of the carbons are optionally replaced by oxygen or sulphur and wherein each alkyl, cycloalkyl or phenyl group present in the phosphine of formula (I) and amine of formula (II) may be optionally substituted by one or more P(R₈)₂ or N(R₈)₂ groups.

30 (new). The actinic radiation curable composition of claim 29 wherein each R₈ independently represents a C₁₋₁₂ alkyl group or a phenyl group.

31 (new). The actinic radiation curable composition of claim 25 wherein the stabilizer is selected from the group consisting of borane ammoniac complex, borane triethylamine complex, borane tributylphosphine complex, borane trimethylamine complex, borane triphenylphosphine complex, borane tributylamine complex, borane N,N-diethylamine complex, borane N, N-diisopropyl ethylamine complex, borane dimethylamine complex, borane N-ethyl-N-isopropyl aniline complex, borane 4-methyl-morpholine complex, borane 4-ethylmorpholine complex, bis-(triethylborane) 1,6-diaminohexane complex, trichloroborane N, N-dimethyloctylamine complex, trichloroborane N, N-dimethyloctylamine complex, trichloroborane triethylamine complex, trichloroborane pyridine complex, trichloroborane benzylamine complex, irontrichloride triethylamine complex, irontrichloride pyridine complex, and irontrichloride N, N-dimethyloctylamine.

32 (new). The actinic radiation curable composition of claim 25 wherein the stabilizer is selected from the group consisting of borane trimethylamine complex, borane tributylphosphine complex, borane ammoniac complex, bis-(triethylborane) 1,6-diaminohexane complex, trichloroborane triethylamine complex, trichloroborane pyridine complex, trichloroborane benzylamine complex, irontrichloride triethylamine complex, irontrichloride pyridine complex, and irontrichloride N, N-dimethyloctylamine.

33 (new). The actinic radiation curable composition of claim 25 wherein the actinic radiation curable cationically polymerisable compound is an epoxy compound.

34 (new). The actinic radiation curable composition of claim 33 wherein the epoxy compound is a cycloaliphatic diepoxide.

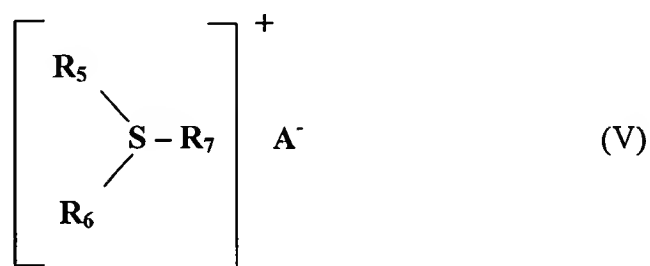
35 (new). The actinic radiation curable composition of claim 34 wherein the cycloaliphatic diepoxide has a monomer purity of 90% or higher.

36 (new). The actinic radiation curable composition of claim 25 wherein two or more actinic radiation curable cationically polymerisable compounds are present.

37 (new). The actinic radiation curable composition of claim 36 wherein the two or more actinic radiation curable cationically polymerisable compounds are cycloaliphatic diepoxides independently selected from the group consisting of bis (4-hydroxycyclohexyl) methane diglycidyl ether; 2,2-bis (4-hydroxycyclohexyl) propane diglycidyl ether; 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexanecarboxylate; 3,4-epoxy-6-methyl-cyclohexylmethyl-3,4-epoxy-6-methylcyclohexanecarboxylate; di-(3,4-epoxycyclohexylmethyl) hexanedioate; di-(3,4-epoxy-6-methyl-cyclohexylmethyl) hexanediotate; ethylenebis (3,4-epoxycyclohexanecarboxylate), ethanediol di-(3,4-epoxycyclohexylmethyl) ether and 2-(3,4-epoxycyclohexyl-5,5,3-dioxane).

38 (new). The actinic radiation curable composition of claim 25 wherein the cationic photoinitiator is an onium salt with an anion of weak nucleophilicity.

39 (new). The actinic radiation curable composition of claim 38 wherein the onium salt comprises an onium salt of formula (III), (IV) or (V):



wherein each of R_1 , R_2 , R_3 , R_4 , R_5 , R_6 and R_7 are independently selected from a $\text{C}_6 - \text{C}_{18}$ aryl which may be optionally substituted by appropriate radicals; A is CF_3SO_3^- or an anion having the formula $[\text{LQ}_m]^-$ where L is selected from the group consisting of boron,

phosphorus, arsenic and antimony; Q is a halogen or hydroxyl group; and m is an integer corresponding to the valency of L enlarged by 1.

40 (new). The actinic radiation curable composition of claim 39 wherein the onium salt is a compound having formula (V) and R₅, R₆ and R₇ are independently selected from the group of phenyl and biphenyl.

41 (new). The actinic radiation curable composition of claim 25 wherein a mixture of two or more actinic radiation curable cationically polymerisable compounds are present.

42 (new). The actinic radiation curable composition of claim 25 further comprising one or more free radically curable components and one or more free radical imitators.

43 (new). The actinic radiation curable composition of claim 42 wherein the free radically curable component is a poly(meth)acrylate.

44 (new). The actinic radiation curable composition of claim 25 further comprising a hydroxy terminated polyether having a molecular weight ranging between 250 to 4000 or a siloxane/polyethylene oxide copolymer.

45 (new). An actinic radiation curable composition comprising:

- (A) 40-80 weight % of at least one liquid epoxy resin having an epoxy functionality of 2 or greater;
- (B) 0.1-10 weight % of at least one cationic photoinitiator;
- (C) 5-40 weight % of at least one liquid diacrylate;
- (D) 0-15 weight % of at least one liquid poly(meth) acrylate having a (meth)acrylate functionality of greater than 2;
- (E) 0.1-15 weight % of at least one radical photoinitiator;

(F) 5-40 weight % of at least one OH-terminated polyether, OH-terminated polyester or OH-terminated polyurethane; and

(G) 0.001-0.3 weight % of at least one stabilizer which is a complex of a Lewis acid and a Lewis base, provided that the Lewis acid is not a fluorine-containing boron compound.

46 (new). A stabilizer comprising a complex of a Lewis acid and a Lewis base provided that the Lewis acid is not a fluorine-containing boron compound and wherein the stabilizer stabilizes an actinic radiation curable composition.

47 (new). The stabilizer of claim 46 wherein the Lewis acid is BX_3 , each X being independently selected from the group consisting of a C_{1-6} alkyl group, hydrogen, chlorine, bromine and iodine and the Lewis base is selected from the group consisting of ammonia, a phosphine and an amine.

48 (new). A method of producing a cured product comprising treating an actinic radiation curable composition with actinic radiation wherein the actinic radiation curable composition comprises:

(A) at least one actinic radiation curable cationically polymerisable compound;

(B) at least one cationic photoinitiator for component; and

(C) at least one stabilizer which is a complex of a Lewis acid and a Lewis base, provided that the Lewis acid is not a fluorine-containing boron compound and wherein the stabilizer is present in the actinic radiation curable composition in an amount of between 0.001 weight % to 0.3 weight %.

49 (new). A method for stabilizing an actinic radiation curable composition comprising mixing at least one actinic radiation curable cationically polymerisable compound and at least one cationic photoinitiator with at least one stabilizer which is a complex of a Lewis acid and a Lewis base, provided that the Lewis acid is not a fluorine-containing boron compound.